Applicant: Shuici Kikuchi et al.

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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-4 (Withdrawn)

5. (Currently Amended) A method of manufacturing a semiconductor device comprising: implanting an impurity of a first conductive type in a semiconductor substrate of a second conductive type, wherein the implantation is a single implantation;

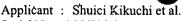
providing a first gate insulation film on the semiconductor substrate;

| does the film or the first gate implanted impurity in the substrate through a first gate insulation film the formed on the semiconductor substrate by applying a heat treatment, so as to form a first drain region partially under the first gate insulation film and a second drain region adjacent to and above the first drain region, said first drain region having a different impurity concentration than the second drain region, wherein first and second drain regions are formed by a single step of implanting the impurity and forming the first gate insulation by applying heat treatment;

providing a second gate insulation film on the semiconductor substrate except where the first gate insulation film is disposed;

providing a gate electrode that spans from the first gate insulation film to the second gate insulation film;

providing a source region of the first conductive type disposed proximally to one end of said gate electrode; and



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providing a third drain region of the first conductive type disposed distally from the other end of said gate electrode and disposed in said second drain region.

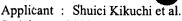
- 6. (Currently Amended) A method for manufacturing a semiconductor device according to Claim 5, wherein providing said first drain region has a lower impurity concentration than the and second drain region comprises diffusing said impurity from the first gate insulation film.
- 7. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 5, further comprising:

providing a layer of the first conductive type to span from one end of said first gate insulation film to said third drain region.

8. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 5, further comprising:

forming a layer of the first conductive type having a high impurity concentration at a predetermined depth in said substrate at a region spanning from a predetermined space from one end of said first gate insulation film to said third drain region, and the high impurity concentration being low at a region near surface of the substrate.

- 9. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 7, wherein phosphorus ion is implanted with an energy of about 100 KeV to 200 KeV in the substrate to form the layer.
- 10. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 8, wherein phosphorus ion is implanted with an energy of about 100 KeV to 200 KeV in the substrate to form the layer.
- 11. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 7, wherein for forming the layer, ion implantation is carried out at a region spanning



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from a predetermined space from said first gate insulation film to said third drain region by using a photo-resist as a mask.

12. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 8, wherein for forming the layer, ion implantation is carried out at a region spanning from a predetermined space from said first gate insulation film to said third drain region by using a photo-resist as a mask.

13. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 7, wherein for forming the layer, ion implantation is carried out at a region spanning from a predetermined space from the first gate insulation film to said third drain region by using a side wall insulation film formed at a side wall portion of said first gate insulating film as a mask.

14. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 8, wherein for forming the layer, ion implantation is carried out at a region spanning from a predetermined space from the first gate insulation film to said third drain region by using a side wall insulation film formed at a side wall portion of said first gate insulating film as a mask.

- 15. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 7, wherein said layer is formed at a region spanning from a predetermined space from the first gate insulation film to said third drain region by using said first gate insulation film as a mask and ion-implanting obliquely from an upper side of the first gate insulation film.
- 16. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 8, wherein said layer is formed at a region spanning from a predetermined space from the first gate insulation film to said third drain region by using said first gate insulation film as a mask and ion-implanting obliquely from an upper side of the first gate insulation film.

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17. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 7, wherein said layer is formed at a region spanning from a predetermined space from the first gate insulation film to said third drain region by using a photo-resist formed to cover said first gate insulation film and ion implanting obliquely from above the first gate insulation film.

18. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 8, wherein said layer is formed at a region spanning from a predetermined space from the first gate insulation film to said third drain region by forming a photo-resist formed to cover said first gate insulation film and ion implanting obliquely from above the first gate insulation film.

19. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 7, wherein said first drain region has a lower impurity concentration than said second drain region.

20. (Previously Presented) A method of manufacturing a semiconductor device according to Claim 8, wherein said first drain region has a lower impurity concentration than said second drain region.